The Wiggler Caretaker's Guide

by Myriah Selene

TABLE OF CONTENTS

Introduction

- Time conversion reference
- What is a Wiggler?

Section 1: Developmental Timeline

- **Chapter 1.1:** At Birth
- **Chapter 1.2:** The Neonatal Stage (0-1 Perigee)
- **Chapter 1.3:** The Early Infant Stage (2-4 Perigees)
- **Chapter 1.4:** The “Scuttler” Stage (5-8 Perigees)
- **Chapter 1.5:** The “Chatterbox” Stage (9-11 Perigees)
- **Chapter 1.6:** The “Explorer” Stage (12-14 Perigees)
- **Chapter 1.7:** The “Final Instar” (15-26 Perigees)
- **Chapter 1.8:** The Sub-Pupal Stage (27-38 Perigees)
- **Chapter 1.9:** The Pre-Pupal Stage (39-42 Perigees)
- **Chapter 1.10:** Post-Pupation

Section 2: Systems and Anatomy

- **Chapter 2.1:** External Anatomy
    - **2.1.1:** Cranium and Facial Features
        - **2.1.1.1:** Skull
        - **2.1.1.2:** Ocular Anatomy
        - **2.1.1.3:** Horns
        - **2.1.1.4:** Hair

        - **2.1.1.5:** Skin and Lips
        - **2.1.1.6:** Ears and Nose
        - **2.1.1.7:** Dental Anatomy
    - **2.1.2:** Body and Appendages
        - **2.1.2.1:** Carapace
            - **2.1.2.1.1:** Molting
        - **2.1.2.2:** Legs
        - **2.1.2.3:** Abdomen (Tail)
        - **2.1.2.4:** Urogenital Area
    - **2.1.3:** Grub Eggs
- **Chapter 2.2:** Internal Anatomy
    - **2.2.1:** Structural and Support Systems
        - **2.2.1.1:** The Cephalic Plate
        - **2.2.1.2:** The Cephalothoracic Column (CTC)
        - **2.2.1.3:** Imaginal Discs
            - **2.2.1.3.1:** Thoracic and Abdominal Discs
        - **2.2.1.4:** The Nutrient Matrix
    - **2.2.2:** Major Organ Systems
        - **2.2.2.1:** Respiratory System
        - **2.2.2.2:** Circulatory System
        - **2.2.2.3:** Digestive System
- **Chapter 2.3:** Sensory Overview and Development
    - **2.3.1:** Touch
    - **2.3.2:** Hearing
    - **2.3.3:** Smell
    - **2.3.4:** Taste
    - **2.3.5:** Vision

Section 3: Behavior and Social Dynamics

Section 4: Altered Development and Anomalies

INTRODUCTION

Time Conversion Reference

1 Alternian day = ~26 Earth hours

1 Alternian perigee = ~1 Earth month

1 Alternian year = ~2 Earth years and 2 Earth months

26 Alternian perigees = 1 Alternian sweep

WHAT IS A WIGGLER?

A wiggler (or a “grub”) is an individual that is in the beginning, larval stage of a troll’s life. This life stage can be further broken into eight major developmental stages:

- The neonatal stage (birth until the end of perigee 1)
- The early infant stage (perigee 2 until the end of perigee 4)
- The “Scuttler” stage (perigee 5 until the end of perigee 8)
- The “Chatterbox” stage (perigee 9 until the end of perigee 11)
- The “Explorer” stage (perigee 12 until the end of perigee 14)
- The “Final Instar” (perigee 15 until the end of perigee 26/sweep 1)
- The sub-pupal stage (perigee 27 until the end of perigee 36-38/sweep 1.3-1.5)
- The pre-pupal stage (perigee 37-39 until pupation, which is usually around perigee 42/sweep 1.6)

SECTION ONE:

DEVELOPMENTAL TIMELINE

Chapter 1.1: At Birth

From the beginning, it is important to note that wigglers can be born in one of two ways: oviparous via the Mother Grub; or viviparous birth via two parents.

Spawn of the Mother Grub emerge from the eggs she lays. The type and texture of wiggler eggs depend on their blood caste. [EXPAND ON THIS LATER.] Wigglers hatched in the brooding caverns are initially slightly less developed than their viviparous counterparts, though this development gap normally closes very quickly.

Though less common, trolls* can gestate their wigglers in what we've come to call a "brood pouch" and give live birth via their nook. Usually the amniotic sac does not break on its own and must be manually broken open by a parent or midwife.

*For information on pregnant grubs, refer to [X SECTION].

Chapter 1.2: The Neonatal Stage

I love sample text.

Primitive Reflexes

Rooting and Suckle Reflexes

Grab/Cling Reflex

Curl Reflex

Crawling Reflex

Startle Reflex

Chapter 1.3: The Early Infant Stage

Chapter 1.4: The “Scuttler” Stage

Chapter 1.5: The “Chatterbox” Stage

Chapter 1.6: The “Explorer” Stage

Chapter 1.7: The “Final Instar”

Chapter 1.8: The Sub-Pupal Stage

Chapter 1.9: The Pre-Pupal Stage

Chapter 1.10: Post-Pupation

A wiggler emerging from their cocoon may find that the world feels quite different! The imaginal clusters that were linked to their front and back grub legs have differentiated into proper troll arms and legs. The middle clusters have been absorbed into the body, creating “grub scars” on the young troll’s torso. All of this to say, freshly-hatched trolls may be clumsy with their new limbs at first!

Besides the [CONTINUE LATER, ABOUT THEIR EYES I THINK]

This is the life stage where wigglers born in the brooding caverns begin their trials.

SECTION TWO:

SYSTEMS AND ANATOMY

Chapter 2.1: External Anatomy

External anatomy intro sample text.

Cranium and Facial Features

Skull

Ocular Anatomy

Wigglers' eyes undergo a critical transformation from birth to pupation. When they are born, grubs have a striking, monochromatic gaze that is nearly identical to their corresponding blood color. Their eyes may appear unfocused or even "milky," and their pupils are entirely invisible.

As a wiggler grows and develops, its pupils will darken over time until they become the solid black pupils that grown trolls are known to have. The final notable change happens gradually in the final few perigees leading up to pupation: the yellowing of the sclera. Once this is finished, the wiggler will have eyes nearly indistinguishable from a troll's and their eyesight will be at its peak just before and after pupation.

Horns

Hair

Skin and Lips

Ears and Nose

Dental Anatomy

Body and Appendages

Carapace

The grub's primary defensive structure is its carapace: a chitinous, segmented exoskeleton that protects its vulnerable interior. It is usually a very slightly darker color than their blood.

The carapace is much more than just a rigid shell. While their dorsal and lateral plates are thick and rigid, a wiggler’s ventral plastron (underbelly) is composed of thinner, more flexible plates that allow for expansion during feeding and growth. The segmented structure of the carapace also allows for extra mobility when moving or curling.

The critical internal structures that the carapace protects include the musculoskeletal system, the nutrient-rich matrix that fuels the wiggler’s growth, and the imaginal discs that hold the blueprint for its adult anatomy. To learn more about the inner workings of a grub, please see **Chapter 2.2: Internal Anatomy.**

Molting

Wigglers grow very fast, especially at the beginning of their lives! To accommodate this rapid growth, they must undergo a biological process called **molting.** To do this, the wiggler's body will develop a new, softer carapace under the old one. Then the wiggler's body separates the old carapace from the new. Once the new carapace is ready, the old one splits along a line of weakness and the wiggler can wriggle out of it.

The new carapace still has plenty of hardening to do, so a freshly-molted wiggler will have a very pale and sensitive carapace.

Molts happen more frequently at the start of a grub's life, with most grubs having molted at least 3 or even 4 times by 10 perigees of age. Meanwhile, a wiggler's Final Instar—the beginning of which is characterized by their final molt—can last for over twenty perigees before the pupation process even begins.

Caretaker Note: Avoid directly handling a wiggler for the first 12 to 24 hours after it molts, and do so with care afterwards. Improper handling after a molt can lead to severe injury for the grub. Give it a cool, dark hiding spot until it has recovered from the strain of molting and its new carapace has fully hardened. This can take up to a week for some grubs, but many will recover sooner.

Legs

Each of a wiggler's three thoracic segments has a pair of black, claw-like legs made primarily of keratin, a slightly more flexible biological material than chitin. This allows their legs to curl in and cling to caregivers, while also remaining protected.

Learning to coordinate each of their six legs is a long process! Every wiggler has a unique journey in figuring out how to move and wriggle around. As they grow, they

will also learn to use their legs to grab and play with toys or other objects. Some older wigglers can even perform very simple tasks with their legs.

These claw-legs seem to disappear upon pupation, but in reality the imaginal discs attached to the muscles of each front and back leg provide the blueprint for the pupated troll's arms and legs. The middle pair of legs does get absorbed back into the body, and as a result most trolls have varying levels of "grub scarring" on their torsos. See **Chapter 2.2: Internal Anatomy**, especially the **Imaginal Discs** section, for more details.

Abdomen (Tail)

The abdominal segment is positioned below the final thoracic segment and pair of legs. From the outside, it appears to be a simple nub or tail. However, it actually contains most of the grub's digestive system.

Landgrubs have shorter, nubbier abdomens with an anal opening at the very end. On the other hand, a seagrub's abdomen extends into a true, shrimplike tail for swimming; their anal opening is positioned just under the base of the tail.

Urogenital Area

The urogenital opening is located on the underside of the abdomen, just before the abdominal nub or tail begins. It is situated on the softer ventral plastron of the abdominal segment. This places it in a protected location, shielded by the grub's own body when it is curled or at rest.

The genital bulge and nook are very small and densely innervated. The bulge is usually retracted, only unsheathing partially to urinate. Attempts to manipulate the urogenital area more than necessary can cause immense pain and even physical injury to a grub.

Wiggler Eggs

Chapter 2.2: Internal Anatomy

Structural and Support Systems

The Cephalic Plate

The Cephalothoractic Column (CTC)

Imaginal Discs

Thoracic and Abdominal Discs

The Nutrient Matrix

Major Organ Systems

Respiratory System

Circulatory System

Digestive System

Chapter 2.3: Sensory Overview and Development

Some more sample text here.

Touch

Feeling or something. Sample text.

Hearing

Yeah they sure can hear.

Smell

Taste

Vision

A newborn wiggler's least astute main sense is its vision. Since their pupil is barely present at birth, their eyes cannot allow much light in. As such, newborn wigglers see in blurry, greyscale shapes with little to no depth perception.

As their vision develops, a grub will first be able to focus on objects about 20-30cm (8-12in) away. They are attracted to high-contrast, moving objects; and the faces of their own caretakers (and siblings, when applicable).

Around 2 or 3 perigees, a wiggler's pupil will have developed enough to let in greater amounts of light. However, many wigglers will have a period of **photophobia** as their pupils continue to adjust to light. This is most common in seadwellers, but occurs at varying intensities among all blood castes. It is generally harmless but causes great discomfort to the affected grub, which can lead to self-endangering behavior and excessive crying if light levels are not decreased.

Regardless, photophobic grubs should see symptom improvement as their pupils develop. Any landgrubs showing pronounced photophobia after the 7th perigee of life should be examined and treated for any underlying conditions accordingly. The same goes for seagrubs after the 9th perigee.

SECTION THREE:

BEHAVIOR AND SOCIAL DYNAMICS

SECTION FOUR:

ALTERED DEVELOPMENT AND ANOMALIES